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SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology; Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie; Int. J. E.* = *International Journal of Ethics; Phil. Stud.* = *Philosophische Studien; Rev. Ph.* = *Revue Philosophique; R. I. d. Fil.* = *Rivista Italiana di Filosofia; V. f. w. Ph.* = *Vierteljahrschrift für wissenschaftliche Philosophie; Z. f. Ph.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Ps. u. Phys. d. Sinn.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane; Phil. Jahr.* = *Philosophisches Jahrbuch; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Ar. f. sys. Ph.* = *Archiv für systematische Philosophie.*—Other titles are self-explanatory.]

LOGICAL AND METAPHYSICAL.

Philosophical Terminology. FERDINAND TÖNNIES (trans. by Mrs. B. Bosanquet). Mind, No. 31, pp. 289–332; No. 32, pp. 467–491; No. 33, pp. 46–61.

The author of this essay, which was awarded the Welby prize last year, investigates the nature of signs in general, and of words in particular, as a preliminary to the discussion of philosophical terminology. And as signs are manifestations of will, he makes a division and determination of the concept 'Will.' "We call an object *A* the sign of another object *B*, when the perception or recollection of *A* has the recollection of *B* for its regular and immediate consequence." Some signs are natural, some artificial. *Natural signs*: Here the sequence in thought is based upon the natural relation between sign (*A*) and thing signified (*B*). There may be an identity between the two, as when the perception or recollection of a thing recalls a former perception or recollection of it, or when the movements of the body are indicative of the mind. *Artificial signs*: Here there is no natural relation between sign and thing signified; the human mind alone produces the relation. Spoken and written languages are the chief instances of artificial signs. Yet artificial signs, especially in early stages of race-development, often grow out of natural. The natural signs, upon which linguistic sounds are based, are: (*a*) involuntary expressive movements of the vocal organs; (*b*) imitation of heard or familiar sounds; and (*c*) attempts, on the principles of analogy and contrast, to reproduce the impressions of objects. A thing may be a sign by the *fiat* of the individual will or of the social will. Only in the latter instance can it serve as a means of communication. This social will may express itself unconsciously in custom (agreement on meaning of words), or more consciously in legislation (as by an academy), or absolutely, in science (definition). Legislation usually delimits the meaning of terms already in use; science often coins words.

Much confusion has prevailed in scientific and philosophical terminology. After the beginning of the modern era two movements were at strife, the inductive and the mathematical. The latter was victorious and gave many new terms to the world. Physics and chemistry did not invent new concepts, but applied those furnished by mathematics. But there was contention within the domain of mathematics. Some maintained that the concepts of those who used the same terms were not the same, and, hence, that terms must be more rigorously defined. Others even held that names are given on the ground of defective knowledge ; that language is metaphorical and uncertain. From such discussion arose two factions : those who held that between names and things there exists a natural and necessary bond (Realism) ; those who considered phenomena in their nameless isolation, and declared names to be arbitrary (Nominalism). The discovery of an architectural plan in nature was a victory for realism ; but investigators in evolution have shown the continuity and gradual differentiation of species, and have thus supported nominalism. The victory rests with the latter—names *are* arbitrary. In philosophy proper, Christian Wolff and his immediate followers introduced the modern (post-scholastic) terminology, which their successors have ratified, extended, and confused. For, after Wolff, writers not only followed in his steps, but also branched off into side-paths. Terminology became confused, the confusion still persists. All the greatest men in this movement were opposed by the conservatism of the universities. This resulted in making the new terminology a nearer approximation to common speech than it would have been if the scholastic element had not been hostile. The literature of philosophy, as well as of science, became more popular in tone. But science crowded philosophy out of the schools. But recently, since it has chosen its new basis (science, both physical and mental), philosophy has been received with more favor.

How are we to remove the obscurity in terminology ? Intellectual intercourse between nations emphasizes the difficulties of such tools as our present ill-defined terms. Moreover, it emphasizes the need of a common language for scientific and philosophical purposes. The tendency at present is towards a predominance of English. But *all* living languages shift meanings and are metaphorical. Probably the best we could do is this : adopt English for all spoken intercourse, and revive neo-Latin for all written learned communication. We might invent a system of concept representation which should be universal, but this could not wholly obviate the need of written words. The Latin is shaped for manifold and refined thought, is susceptible of indefinite expansion by adoption of Greek words, has gained the coolness and sobriety appropriate to reason, is non-figurative and settled. All this can best be promoted by an establishment which shall have at once the learning, the authority, and the prestige to impose innovations, viz, an international academy.

R. V. NYE.

Criteria of Truth and Error. HENRY SIDGWICK. Mind, No. 33, pp. 8–25.

The business of philosophy is to unify or systematize our common thought. But before this can be done, we need to be assured that our thoughts are true and valid. So we need some criteria for distinguishing truth from error. The fact of error is clearly seen in turning to the past and noticing the errors which Copernicus and others corrected. Thus the philosopher begins to think of the possible erroneousness of all beliefs. But this may be like Descartes's doubt, a mere stage in the progress toward a dogmatic system. This removal of philosophic uncertainty is the primary aim of epistemology. Certain beliefs in ordinary thought are considered indisputable. Some of these require proof, and seem to have obtained it, while others do not seem to require it. Logic provides criteria for the former, and it is our present task to inquire if there are criteria for the latter. Descartes's criterion was "that all the things which we very clearly and distinctly conceive are true." Kant, however, rejects such a criterion, regarding the logical criteria of formal truth as sufficient for all kinds of inference, whereas a general criterion for all kinds of truth cannot possibly be found. But his argument for this position fails. The criterion of empiricism is that truth adheres to the cognitions of particular facts, or, as Mill says, to whatever is a matter of direct observation as opposed to inference. Yet neither the Cartesian nor the empirical criterion covers the whole ground, as the former verifies only particular premises, and the latter only universal. Further, Descartes's criterion hardly satisfies his own requirements, as it is hard to say what he meant by the "clearness" of a notion. He, however, claims that it is intuitively known, and he has three ways of establishing it. Strangely, the rationalist bases his criterion partly on experience, while the empiricist, as we found, treated his as self-evident. The latter, however, has unwarrantably extended the judgment 'I am conscious' to that affirming that my present consciousness is such and such. Herbert Spencer has propounded a third criterion which he thinks is applicable to all cognitions, viz, 'the inconceivableness of the negation,' where inconceivable means 'intuitively incredible.' This is useful to some extent, but there are many difficulties in its application. He propounded it to defend realism against idealism, for he wishes to show that the denial of the non-ego, as something independent of the ego, is inconceivable. But his criterion is inadequate, and is scarcely more universal in its applicability than the two former criteria.

A. W. CRAWFORD.

Green's Refutation of Empiricism. HOWARD V. KNOX. Mind, No. 33, pp. 62–74.

Idealists generally do not define what they mean by 'difference' in their formula of thought as a "difference in identity." But this is just what we want to know, or: "How—if all relation is in and for thought—is relation *to* thought possible?" or, what is *meant* by the identity of thought and reality? Green admits that the explanation he gives in §§ 66–67 of the *Prolegomena to Ethics* does not fully explain. In § 68 he virtually admits that the two moments of thought, as containing time and as contained in time, do not admit of a genuine synthesis. It is also difficult to distinguish the object 'communicated' from the subjective fancy, and another difficulty is that the object 'communicated' to us is never the object as it exists for the eternal consciousness. But, again, in saying that "the work of the mind is real," he gets into the difficulty that even a mistaken belief "has its own reality," thus making reality consist in successive states of consciousness. This really is a denial of the distinction between truth and error, and, accordingly, when he tries to distinguish these, he gets into confusion. The substance of his criticism of empiricism is found in his statement, that "no one and no number of a series of related events can be the consciousness of the series as related." But his arguments here go to empty the individual consciousness of its content. They amount to making an absolute difference between thought and its object, which, if applied to the eternal consciousness, would lead to hopeless difficulty. He further contends that knowledge of nature cannot be a "result of natural processes," on the ground that there is no "element of identity" between nature and knowledge, and that, not only our knowledge of nature, but nature itself is "impossible apart from the action of an intelligence." But this means only that nature is a result of intelligence, though his own conclusion is that nature in its totality is an eternal thought, and consequently empiricism is a *hysteron proteron*. His attempted proof of the non-temporal character of thought is a two-fold *ignoratio elenchi*. First, between eternity and *indivisibility of judgment*, and next between eternity and *continuity of consciousness*. This finds expression in an absolute distinction between succession of consciousness and consciousness of succession: and since the latter is the eternal consciousness, it is directly equivalent to an absolute distinction between the temporal consciousness and the eternal consciousness. Neither is nature the eternal consciousness. So instead of the identification of nature and of our thought with the divine consciousness, he has left the three in absolute distinction.

A. W. CRAWFORD.

Sens commun et philosophie. ALBERT SCHINZ. Rev. Ph., XVI, 1, pp. 53–73.

The article is practically a plea for philosophy which is so abused to-day, but of which man never had more need than now. The cause of this state of affairs is the condition of turmoil in which all the individual sciences find themselves; but yet this very divergence will help to pave the way for truth. Common sense in this regard cannot be appealed to, for it simply states but does not explain. It cannot solve real questions or become master of problems, although it calls itself the science anterior to philosophy. Philosophy produces science in that it shows the necessity of it. The origins of both are identical in point of time, as is natural, since philosophy has for its task the solving of problems given by science. Philosophy sets science upon the right road, frees its path from all that hinders its progress ; it examines the solutions offered by means of science to see that they are satisfactory ; and from its independent position it overlooks all the separate sciences and coördinates them.

F. M. WINGER.

PSYCHOLOGICAL.

Zur Kritik tachistoskopischer Versuche. W. WUNDT. Phil. Stud., XV, 3, pp. 287–317.

Zur Erläuterung unserer tachistoskopischen Versuche. B. ERDMANN und R. DODGE. Z. f. Ps. u. Phys. d. Sinn., XXII, 4, pp. 241–267.

Wundt's criticism of the *Untersuchungen ueber das Lesen auf experimenteller Grundlage*, published by Erdmann and Dodge in 1898, and quite extensively noticed by psychologists since its first appearance, is perhaps the most severe judgment that has yet been passed upon the work. Erdmann and Dodge used in their experiments an apparatus for exposing words and letters during very brief intervals, which is technically known as a tachistoscope. It is against this tachistoscope that Wundt's criticism is principally directed. In the first place he enumerates six essential conditions which such an apparatus must fulfil : (1) The period of exposure must be brief enough to exclude the possibility of eye-movements ; (2) it must be so adjusted that all objects in the neighborhood of the fixation-point can be seen with equal distinctness ; (3) the illumination must be extended simultaneously to all parts of the field of vision—at least, the illumination of a single part of the field should undergo no noticeable change ; (4) the conditions of retinal adaptation must be as favorable as possible, *i. e.*, sudden changes in brightness are to be guarded against ; (5) a persistence of the retinal excitation must be avoided ; (6) the period of illumination or exposure must be brief enough to exclude an alternation of the attention from one part of the field to another. In the construction of their apparatus, Erdmann and Dodge have satisfied the first three of these requirements, but have paid no attention to the last three. Upon the basis of these requirements, Wundt defends the fall-tachistoscope used by Cattell, and, from the same standpoint, considers other similar instruments, especially those used by Volkmann and Helmholtz. As positive advantages which the tachistoscope of Erdmann and Dodge possesses over the older forms, Wundt enumerates three : (1) the simultaneous exposure and illumination of all parts of the field ; (2) the possibility of using different periods of exposure ; (3) the illumination of the field during the pauses in the experiments. These advantages, however, are not unalloyed : (1) the presence of after-images makes it a matter of little importance whether all parts of the field are simultaneously illuminated or not; (2) the second advantage was not utilized by the authors; (3) there was still a brightness difference between the exposure-illumination and the interval-illumination sufficient to cause disturbances in retinal adaptation. Three positive disadvantages are to be noted: (1) the above disturbances in adaptation which are necessarily involved in the rapid alternation of the illumination; (2) the persistences of the retinal excitation; (3) the alternations of the attention which are necessarily involved in the perception of an extensive object of vision.

Erdmann and Dodge in their reply to Wundt's critique, assert that the latter has limited himself to a criticism of apparatus, without going into the details of method which led to the construction of such apparatus. They summarize his arguments under two propositions: (1) the alternation of the brightnesses of the primary field of vision, and of the field of exposure, must lead to alternations of the attention, and to disturbances of adaptation, either of which invalidate the experiment; (2) the retinal image of the object exposed lasts sufficiently long after the completion of the exposure to render computations based upon the exposure-time practically without meaning. In answer to these arguments, the authors deny that the difference in the two illuminations is great enough to exercise the influence ascribed to it by Wundt. It is less, they maintain, than is involved in the tachistoscope used by Lange and Cattell, or in other similar instruments. In any case, alternations in the brightness of the field are necessarily present in the reading of ordinary print, and an experiment which is to investigate such reading cannot arbitrarily exclude a constant factor. But the disturbances of adaptation which Wundt cites as a result of this difference of illumination are inferred by him from preceding experiments, which, Erdmann and Dodge maintain, are not at all analogous to theirs. They assert that their apparatus was not primarily designed to exclude such a condition as the alternation of attention, but to analyze the pauses that are begun and completed in the process of reading. These pauses are considerably longer than the sum of the exposure-time and the time during which the retinal excitation persists. Evidently alternations of attention are not disturbing factors in normal reading: if they were it would not be so difficult to eliminate them under experimental conditions.

W. C. BAGLEY.

Psychology and Social Practice. JOHN DEWEY. Psych. Rev., VII, 2, pp. 105–125.

The more comprehensive problem, "Psychology and Social Practice," is approached through one of its special cases—the relation of psychology to education. The chief question is whether the standpoint of psychology, as a study of mechanism, is indifferent and opposed to the demands of education. Teachers to-day have a psychological creed. In fact, educational reforms meet their greatest obstacle in two false assumptions: (1) of a difference between child and adult psychology, where, in reality, identity reigns ; (2) of likeness where marked difference is the most important feature for educational purposes. Their hold upon these assumptions is so fixed that it is impossible to shake them off in any fundamental way, except as individual instructors appreciate the true psychology of the case. The specific reason for believing that psychology—the ability to transform a living personality into an objective mechanism for the time being—is an organic necessity for the teacher is found in the principles of the teacher's own activities. He is dealing with psychical factors that are concerned with the furtherance of certain habits and the inhibition of others. All the instruments and materials of instruction must be regarded as psychical stimuli. Hence he must possess the power to see what is in the child as a psychical mechanism, and then to transmute materials and instruments into their working psychical equivalents. The writer tries to show that psychology is useful to education just because of its statement of personal aims and social relations in terms of mechanism. From this type case Professor Dewey passes to the larger question—the relation of psychology to social practice. When we apply an ethical standard to the consideration of social institutions, they, like our schools, stand as organs for the increase of the realized values of life. In both cases the statement of the mechanism through which the ethical ends are realized is required, and it is at this point that psychology serves us directly. As long as moral ideals are derived from custom, so long will they be realized through custom. But, when the values come to consciousness, then the machinery by which ethical ideals are projected come to consciousness also. Psychology, as the statement of the mechanism of the workings of personality, is the only alternative to an arbitrary view of society. In order to save personality in all, the achievements of all must be stated in terms of mechanism.

L. M. ALDRICH.

The Criterion of Sensation. GEORGE STUART FULLERTON. Psych. Rev., VII, 2, pp. 159–171.

This paper, which was presented before the New Haven meeting of the Psychological Association, is introduced by a re-statement of certain arguments given in a paper read by Professor Fullerton at a former meeting of the same association. There he maintained that the inconsistency involved in the tacit assumption of the doctrine of representative perception, need not lessen the value of the psychologist's work. Psychology, as a natural science, implies assumptions, and it is the work of the epistemologist to eliminate any contradiction. That earlier view of the relation of the work of the psychologist to that of the epistemologist is here illustrated by a discussion of sensations and their criterion. It is shown that the psychologist's criterion of sensation, the reference to the peripheral nervous system, cannot be regarded as ultimate, save for convenience of discussion within a certain limited field of investigation ; that its justification must be sought in epistemology ; and that the contradiction shown to exist in the psychological standpoint is harmless just because it is a contradiction to the psychologist alone, and not to one who carefully analyzes his concepts, and comprehends clearly the use which he makes of them. It is maintained that the assumption that the psychologist directly perceives the world of material things, and knows immediately that he is dealing with such, when he makes his experiments upon a human body, was, after all, only a tacit assumption. It is shown also, that the psychologist must adhere faithfully to the doctrine of representative perception, which has not been framed arbitrarily, as its usefulness testifies. To eliminate the contradiction in the psychologist's assumption that he does and at the same time does not immediately perceive things, by denying the doctrine of representative perception, can only result in hopeless confusion. The contradiction can be eliminated only by recognizing that percept and thing perceived are but two ways of regarding the same complex in consciousness. But the elimination of the inconsistency in the psychological standpoint is the work of the epistemologist, not of the psychologist. L. M. ALDRICH.

Perception of Change and Duration. G. F. STOUT. Mind, No. 33, pp. 1–7.

The question is : When we perceive a temporal process as such, how far, and in what sense is it necessary that representations of prior parts of the time-series, should be present to our consciousness in the perception of succeeding parts ? Such writers as T. H. Green and Shadworth Hodgson say that the presentations of prior stages must be present in later stages. The problem has been much discussed in Germany. Schumann denies the necessity of memory images, holding that all we require is an after-effect of a physiological or psychical disposition. Professor Meinong takes the other side, admitting, however, that introspection gives him no support, but basing his argument on a supposed *a priori* necessity for *some sort* of apprehension of the terms related in order to apprehend a relation. But the writer argues that traces of physiological or psychical dispositions, and not memory-images, are all that is necessary. The effect produced by preceding notes in a succession must be capable of functioning instead of them, for certain purposes. If, after the last note in a succession, we begin to hear it anew, or to reproduce it in memory, we must be able to recognize the successive determinations in detail, of what we had previously before our minds, as an internally indeterminate whole. He concludes by saying that introspection does not discover the memory-images, nor is the *a priori* argument sufficient to prove their existence, but that he is convinced that he can detect their absence. A. W. CRAWFORD.

Münstersberg's Versuch einer erkenntnistheoretischen Begründung der Psychologie. JONAS COHN. V. f. w. Ph., XXIV, 1, pp. 1–22.

In the attempt to establish a basis for psychology, the relation of psychology to physics is necessarily of determining importance. This relation Münsterberg discusses in connection with the logical distinction between description and explanation. Description means to communicate an object by communicating its elements. It therefore implies: (1) the possibility of analysis into elements; (2) the possibility of communicating the elements thus obtained. The first possibility is conceded by Münsterberg; the second he denies because psychical objects are accessible only to a single individual. Communication, therefore, must take place through connection with physical objects. Direct connection is possible only to perceptions, not to feelings. But, when Münsterberg refers "feeling tones" and other "characteristics" of sensation to centrifugal physiological processes, what assurance has he that others will be able to understand him, and make the distinction which he intends? Ultimately we can only indicate the conditions necessary in order to experience differences of this sort, and thus enable others to experience them for themselves. Furthermore, the connection between the physical object and sensation is not ideally complete. Description in this sense is impossible. Nor is Münsterberg's conception of explanation more adequate. We isolate a psychological object from the original unity of experience, he says, solely in order to make predictions regarding future events. Prediction is possible only on the basis of causal connection. We have explained a phenomenon when we have shown it to be necessarily related to a preceding fact. This necessity is lacking in so-called empirical laws; it exists only where the laws of mechanism prevail. Mechanism is not applicable to the psychical life, where the object is created anew at each act and disappears again. A direct and unambiguous connection, therefore, must be established between the psychical processes and some bodily processes, *i. e.*, the processes in the brain. For the psychologist the general assumption of a complete parallelism is sufficient. But this general assumption explains nothing. The special content of an empirical law does not gain in validity by being related in an abstract and general way to a physiological process of which we only know *a priori* that it is subject to mechanical laws. Explanation in psychology differs simply in the fact that a result need not belong to the same kind of connections as its conditions. Psychical events do not form a closed system, and for this reason certain changes can be explained only by reference to the entire organism. It is in this necessary imperfection of psychology that we find the significance of psycho-physical parallelism. This hypothesis makes it possible, when the limits of psychological explanation have been reached, to draw upon the results of physiology. Parallelism is simply a working theory, and, as such, is the more useful according as we know more about nerve and brain functions. Münsterberg's work is an attempt to establish a basis for psycho-physical parallelism, an attempt made in the form of an epistemological investigation. He fails because he is too completely guided by the example of mechanism, but the attempt is nevertheless of great value and significance.

BOYD BODE.

A Defence of Phenomenalism in Psychology. F. H. BRADLEY. Mind, No. 33, pp. 26–45.

Phenomenalism means the confinement of one's attention to events as experienced with their laws of co-existence and sequence. This is really what is done in practice by most psychologists. To this, however, objections are raised, and to deal with these is the purpose of this article. This view destroys the unity of the soul and confines it to present experience. No, for its history is still one, and the past still belongs to it. It leaves out ideas and judgments about objects and the unanalyzable element in every event. No, for these as experienced are events. Your events are abstractions, and your laws fictions. No more so than the materials of every separate science that stops short of metaphysics. Psychology is not a limited science, as nothing falls outside the mind, and mere phenomenal laws will not explain. But a special science does not have a special compartment, but merely studies with a limited end and in a limited way, and anything outside this is useless. There are also two further objections based on a misunderstanding of 'phenomena.' (1) Mere phenomena are quite discrete, and lack all continuity. No, for experience is a whole with certain aspects, which are legitimate abstractions, but not discrete reals. (2) Phenomena are mere objects, but the life of the self, its activity, and its pleasures and pains, cannot be resolved into objects and their laws. But this is contrary to fact, for we are aware of pleasure and pain, and pleasure can be made an object. Neither is the view of the objection workable, for it leaves the self out of experience, only to leave us aware of it in self-consciousness, where it is equally inexplicable. An illustration of this is found in Professor Andrew Seth's late work, *Man's Place in the Cosmos.* To take up a question that has already been raised: Do we have ideas of pleasure and pain? It is held that we do not, but only of that which was pleasant. This view cannot account for the fact that the thought of a past pleasure may be itself pleasant or painful, while yet it remains a thought of past pleasure. Further, it would require a lapse of time between ideas of the pleasant experience which is recalled, and the quality of pleasantness which would have to be revealed, whereas the pleasantness seems to be an integral part of the idea.

A. W. CRAWFORD.